

### **REMARKS**

In the Office Action mailed on December 9, 2008, the Examiner withdrew the objection to claim 14, and entered various new grounds of rejection. In particular, the Examiner rejected claims 1-6, 12, 13, 21, 24, 25, 32-34, and 36 under 35 U.S.C. §103(a) as unpatentable over WO 00/17102 in view of U.S. Patent No. 6,855,376 to Hwang et al. ("Hwang"); claims 1, 2, 12, 13, 15, 19, 21, 22, 24, 25, 29-34, 36, and 37 under §103(a) as unpatentable over U.S. Patent No. 6,413,487 to Resasco et al. ("Resasco") in view of Hwang; claims 4-6, 14, 16, 17, 21, and 24-26 under §103(a) over Resasco in view of Hwang and further in view of U.S. Patent No. 6,967,013 to Someya et al. ("Someya"); and claims 21-29 under §103(a) over Resasco in view of Hwang and further in view of U.S. Patent No. 4,572,813 to Arakawa ("Arakawa").

In the response of March 6, 2009, Applicants amended claim 1 to include the limitations of dependent claims 13, 14, and 21 (but omitting the possibility of a "pure metal" from original claim 13), and canceled those dependent claims. In the Advisory Action of March 24, 2009, the Examiner noted formal deficiencies in dependent claims 22 and 36; indicated that Applicants' arguments had been considered, but were not deemed persuasive, and maintained the Final Rejection; and indicated that the amendments would not be entered.

This Amendment and Response is submitted, further to the response of March 6, 2009, in response to the Office Action mailed on December 9, 2008, and the Advisory Action of March 24, 2009. The additional amendments herein address the formal matters regarding claims 22 and 36 and are submitted in order to place the application into better condition for appeal. Although the Examiner has deemed the arguments submitted in the response of March 6, 2009 unpersuasive, Applicants repeat these arguments herein in order to have them formally entered into the record.

With respect to the Examiner's rejection of original claim 13 — the limitations of which are now partially recited in claim 1 — over WO 00/17102, this reference neither discloses nor suggests the substrates recited in amended claim 1, i.e., silica, alumina, carbon, mica, magnesium oxide, calcium oxide, sodium chloride, or a mixture of two or more thereof, or graphite, aluminium, or titanium. Similarly, as the Examiner recognizes, Hwang's disclosure is limited to

Fe, Co, Ni, and alloys thereof. Claim 1, as amended, does not cover a substrate having any of these materials.

With regard to the Examiner's rejection of original claim 14 (the limitations of which are now also recited in claim 1) over Someya, this reference teaches no more than the use of a substrate, such as aluminum, to form aligned carbon nanotubes in a process that requires coating of the substrate with an element having no catalytic ability. This has no relevance to the present claims or, for that matter, to the processes of Hwang and Resasco. There is also nothing in Someya that would suggest the use of finely divided substrate particles as recited in claim 1, or the deposition methods set forth in claim 1. Accordingly, we submit that one of skill in the art would not make the proposed combination, and that in any case, the Examiner's reference to Someya's disclosure of aluminum takes that disclosure entirely out of context. Applicants do not claim to have invented aluminum substrates, but rather their use in the specific process set forth in claim 1.

### **CONCLUSION**

It follows from the above analysis that the references of record, considered independently or in proper combination, do not render unpatentable the subject matter of the present claims. The use of the methods of the present invention to produce aligned carbon nanostructures is an empirical finding that could not be predicted prior to the priority date of the present application. Accordingly, we respectfully request reconsideration and withdrawal of the examiner's objections.

Please charge any additional fee occasioned by this paper to our Deposit Account No. 07-1700.

Respectfully submitted,

Date: June 9, 2009  
Reg. No. 33,497

Tel. No.: (617) 570-1241  
Fax No.: (617) 523-1231

/Steven J. Frank/  
Steven J. Frank  
Attorney for Applicants  
Goodwin Procter LLP  
Exchange Place  
Boston, Massachusetts 02109